REMARKS

Procedural History

Respectfully, in response to the preamble paragraph of the office action, Applicant hereby submits this procedural history to correct and clarify the status of the application. Applicants submitted the instant application serial number 10/604,703 on August 11, 2003 to the USPTO. A continuation in part application, application number 10/708,739, was filed on March 22, 2004.

On July 15, 2004 a restriction in the instant application was issued. Subsequent to this a restriction was issued on August 6, 2004 in the 10/708,739 application. An election in response to the restriction requirement in the 10/708,739 was delivered by hand and filed on July 21, 2004, and subsequently entered into the case. An election was also delivered by hand and filed in the instant application on **August 12, 2004**.

An office action was instituted in the 10/708,739 on August 6, 2004. Applicants and their representatives requested and the Examiner granted a personal interview on September 8, 2004. Subsequent to this, Applicants' prepared and filed an amendment on October 14, 2004 together with a Supplemental Information Disclosure Statement and PTO-1449 listing 52 patent references and 6 non-patent references in the 10/708,739 application. In a telephone conversation with the Examiner on January 6, 2005, the Examiner indicated that the election filed on August 12, 2004 in the instant case was not properly scanned into the Electronic File Wrapper at the USPTO. Applicants' promptly responded by sending a facsimile of the original filing and a copy of the date stamped filing receipt indicating the original filing date of **August 12, 2004**. The Examiner instituted an office action on January 21, 2005 and Applicants hereby

respond in a timely manner. Please note the timely response date of **August 12, 2004** in regards to the election filed in the instant case.

Claims 1-36 and 63-87 have been canceled in compliance with the restriction requirements, claims 37, 38, 40-42, 44-45, 52, 56, 57, 59, 61, and 62 and claims 39, 43, 46-51, 53-55, 58, and 60 stand as originally presented in the application. Further, the specification, and Figures 3B, 4B, 5B, 8, and 9 have been amended and Figure 10 added. In addition, a terminal disclaimer is submitted herewith to overcome the non-statutory double patenting rejection presented in the office action. The Applicant has carefully and thoughtfully considered the Office Action and the comments therein. For the reasons given below, it is submitted that this application is in condition for allowance.

Objection to the Drawings

In the Action on page 3 in section 4, the drawings were objected to under 37 C.F.R. § 1.83(a) as not showing every feature of the invention specified in claims. Specifically the objection noted that the SCR, the heat sink, the main battery cold cranking amperage sensor, the auxiliary battery cold cranking amperage sensor, the auxiliary battery voltage sensor, the switching device sensor, the written instruction, etc were not shown. Additionally, element 750 must be properly labeled. It is noted that the claims directed to cold cranking amperage sensors have been rewritten to indicate amperage sensors. The features claimed are shown in the amended drawings 3B, 4B, 5B, 8, and 9. Further, the features of claim 60, namely written instructions, are shown in added Fig. 10.

In the Action on page 4, section 5, the drawings are objected to under 37 C.F.R. § 1.83(a)

as failing to show the conventional names, as described in the specification, for the elements shown in the drawings with non-conventional symbols. Applicants have amended Figures 3B, 4B, 5B, 8, and 9 to show labels for the cited components. As such, it is respectfully requested that the objection to the drawings be rescinded.

Hence, because the features objected to are shown in the amended drawings and the remaining objections have been addressed and overcome, Applicants respectfully request that the objections to the drawings be rescinded.

Objections to the Specification

In the Action on page 5 in section 6, the Examiner noted errors in the specification and requested that the Applicant correct any remaining errors in the specification. The Applicants thank the Examiner for the review of the specification. The Applicants have amended the specification to correct the errors noted by the Examiner and has reviewed the specification for any remaining errors and amended accordingly.

Further, with respect to the objection to paragraph [0052], Applicants have defined the instructions at paragraph [0052] indicating that the switch is to be switched from a first operating position to a second operating position for a period of time and then back to the first operating position.

Further, with respect to the objection to paragraph [0090], Applicants note that examiner is attempting to impose unnecessary limits in the description provided. Respectfully, Applicants have accurately described an embodiment utilizing a switching device that may be operated by either an operator, i.e. manually, or through an automated controller. Thus, it is Applicants

position that further limitations as to where or when the switching device may be operated is unnecessary for one or ordinary skill in the art to understand the invention.

In the Action on page 5 in section 7, the Examiner objected to the specification "as failing to provide proper antecedent basis for the claimed subject matter." As it was unclear as to what the statutory grounds for the objections were in both this office action and in an identical objection in the co-pending 10/708,739 application, Applicants' representative contacted the Examiner. In a telephone conference on October 12, 2004, the Examiner indicated that the objections to the claim language was based on 35 U.S.C. § 112, second paragraph as she felt the limitations were indefinite. Applicants therefore respond on the basis that the objections are directed to 35 U.S.C. § 112, second paragraph. It is respectfully submitted that the cited limitations of the claims, as amended, are not indefinite.

As per the limitation "coupled to a...point...beyond" the one-way charging circuit, Applicants note that the claim reciting the limitation, has been amended. Therefore the objection is rendered moot. As per the limitation "short periods", Applicants have amended the claim to remove the term "short". It is respectfully submitted that the claim as amended is now definite. As per the claims containing the limitation "input from the at least one switching device sensor" the claim refers to switching device sensor 750, which is shown in amended figure 8, and, as shown, clearly has an input from the sensor to the controller. It is therefore submitted that the limitation is clearly supported by Applicants' figures and specification. Thus, Applicants respectfully request that the objections to the specification be rescinded and that the claims be allowed.

In the Action on page 5 in Section 9, claims 37, 40, 56, 58, and 60 are objected to because of informalities. Applicants have either canceled or amended claim 2, 3, 20 and 27 to

remove the informalities and Applicants have reviewed the remaining claims for any additional informalities and taken appropriate actions to correct these informalities. It is therefore requested that this objection be rescinded.

35 U.S.C. §102(e) Rejection

In the Action on page 8 in section 12, claims 37-42, 45, 54-57 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,545,445 to McDermott (hereinafter McDermott). Applicants respectfully traverse this rejection. Applicants note that claim 37 stands amended, however, the amendments incorporate elements of claim 2, which was rejected on the same grounds in the Action.

In addressing claim 37, the Office Action presumes that in a first operating position, both the main and auxiliary battery could be connected to the system and charged, while in a second operating position the main battery is isolated so that neither DC loads, nor the auxiliary battery could drain power from the main battery. The office action goes on to assert that McDermott teaches a multiple battery system 100 with a main battery 102, an at least one auxiliary battery 103, a main electrical circuit 105 with a coupling of a common positive terminal with an at least one switching device 122, the at least one switching device having at least two operating positions wherein the a first operating position provides electrical charge to both the main battery 102 and the at least one auxiliary battery 104 and a controller 108 is coupled to the main electrical circuit and switches the switching device based on input from sensors 116 and 118. In addressing the limitations of claim 2, no further citations or grounds for rejection are provided.

As to amended claim 37, the presumptions on the limitations of the claims are inaccurate, in that they fail to consider the positively recited limitation of a one-way charging circuit.

Moreover, McDermott does not teach several limitations of amended claim 37. The action fails to address the positively recited limitation that the at least one switching device is used "to selectively couple the main or the at least one standby battery" to the electrical system. The action also fails to address the positively recited limitation of a "one-way charging circuit" in amended claim 37. Furthermore, McDermott does not provide for several additional aspects of the positively claimed operating positions nor does it provide for the positively recited recharging aspects of the invention as claimed in amended claim 37. In fact, McDermott teaches against the presumptions made in the first paragraph of the rejection in the Office Action. Specifically, McDermott teaches the discharge of the main and auxiliary batteries as between each other, **teaching bleeding charge between** the batteries (See McDermott, Figs. 1 & 2, col. 4, lines 45-50 and elements 106, 104, 102).

In an effort to more expediently point out the specific distinctions believed to render the application patentable over the references cited, Applicants' provide the following non-limiting summary in table format. In no way should the table be considered a complete listing of distinctions. The points of distinction in the table are further exemplified and expounded upon in the remarks following the table.

McDermott Reference (as to claim 37)	**Instant Invention**
"auxiliary battery is always online in the circuit" and allows for the **addition** of a starter battery on startup, i.e. the auxiliary battery or the starter **and** the auxiliary battery are connected in McDermott. The starter battery is never engaged to operate the electrical system alone. (See McDermott, Figs. 1 & 2, abstract, line 16; col. 4, lines 45-50 and elements 106, 104, 102; col. 3 lines 12-13)	"selectively engaging said main battery or said standby battery" selectively switches **between** the main **or** the at least one standby battery for operating the electrical system. In the first operating position the main alone operates the electrical system. In the second operating system the at least one standby battery operates the electrical system without the main. (Applicant's claim 37)

Does not provide a one-way charging circuit charging a standby battery, instead uses a parallel circuit engaging both batteries during recharging and allowing for discharging of both batteries (See McDermott, Fig. 1, col. 5, lines 7-13, elements)	"is simultaneously coupled to the at least one standby battery positive output **through a one-way charging circuit** which allows charging of the at least one standby battery but prevents discharging of the at least one standby battery" (Applicants' claim 37)
Teaches away from the provision of one-way charging circuit by providing that the auxiliary battery and starter battery are connected to electrical system in parallel (See McDermott, Fig. 1 and 2, col.4, line 5; col. 5, lines 40-41; and element 106 & 206 "parallel circuit")	"in a first operating position of the at least two operating positions ...the main battery operates the electrical system and the one-way charging circuit is coupled to the common positive terminal and the positive output of the standby battery providing electrical recharging to the at least one standby battery" (Applicants' claim 37, Figures 3-9, Applicants' Specification, para. 120); the batteries are not in parallel and no parallel circuit is engaged with the at least one standby battery, as there is no discharge since the one-way nature of the charging circuit prevents discharge. (Applicants' Specification, para. 115) Additionally, in a second operating position of the at least two operating positions, "the common positive terminal is coupled directly to the standby positive output"; the main battery is isolated from both the standby battery and the electrical system and, again, no parallel circuit is engaged. (Applicants' claim 38; Figures 3-9 and Specification, para. 119)
Does not provide for charging an at least one standby battery without discharging same (See McDermott, Figures 1 and 2, parallel circuit 106)	Provides for one-way charging of an at least one standby battery i.e. without drawing from the at least one standby battery - allowing for maintenance of a fully charged standby battery (Applicants' claim 37-62, spec., para. 119-121)
Bleeds charge from one battery to the other in the parallel circuit (See McDermott, Figs. 1 & 2, col. 4, lines 45-50 and elements 106, 104, 102)	Does not permit bleed from main battery to any of the at least one standby batteries or vice versa, as the batteries are separated by the one-way charging circuit or isolated from one another (Applicants'

	claims 37-39, and specification see *infra*)

As discussed in the interview, the instant invention differs from the McDermott reference in several ways, and the amended claims positively recite these differences.

Firstly, claim 37 specifically recites that the at least one switching device is used "to selectively couple the main or the at least one standby battery" to the electrical system. The switching device in McDermott is engaged to switch the starter battery into the circuit, it allows for selective engagement of either the auxiliary battery 106 **or both** the auxiliary battery 106 **and** the starter battery 104, not the starter or the standby battery. It, therefore, does not provide for selectively engaging either the auxiliary battery 106 **or** the starter battery 104, as positively recited in the claims, as the starter battery is only engaged together with the auxiliary battery. Furthermore, McDermott explicitly teaches that the auxiliary battery is always connected (McDermott, abstract, line 16). This teaching further supports the assertion that the system of McDermott cannot selectively switch to either the auxiliary or the starter battery as the auxiliary battery is taught as always being connected.

In contrast, as positively recited in claim 37, the switching device of the instant invention is described as switching **between** a main **or** an at least one standby battery to operate the electrical system. Therefore, not only does McDermott fail to anticipate the invention, but with its explicit teachings of an always connected auxiliary battery, one of ordinary skill in the art would not even look to modify McDermott in a manner that would render obvious the claimed switching device and its selective engagement of either the main battery **or** one of the at least one standby battery to operate the electrical system. It would be contrary to the teachings of

McDermott. It is, therefore, respectfully submitted that claim 37 is not anticipated by McDermott.

Secondly, amended claim 37 provides that the "common positive terminal is coupled to the main battery positive output and operates the main battery and is simultaneously coupled to the at least one standby battery positive output through a one-way charging circuit which allows charging of the at least one standby battery but prevents discharging of the at least one standby battery." The system of McDermott and other switched battery systems do not provide nor do they suggest the positively recited features of a one-way charging circuit, but instead, teaches away from such an element.

The McDermott reference as a switched battery system is similar to the Hwa and Waugh patents and other patents cited in Applicants' specification that provide, in general, parallel switched battery systems, save that the McDermott parallel switching system allows for switching a starter battery 102 from or into the parallel circuit 106 with auxiliary battery 104 (McDermott Figs. 1 and 2, and McDermott specification col. 5, lines 1-10; col. 5, lines 30-35) as opposed to switching between the two batteries as shown in, for instance, U.S. Patent 6,121,750 to Hwa.

Similar to the switched battery system of Hwa, McDermott provides a secondary battery for intermittent engagement to fulfill requirements for short duration, high current output situations, i.e. starting (McDermott col. 2, lines 10-20). However, as stated in Applicants' specification in regards to Hwa, there is no indication or suggestion of a one-way charging circuit in the circuitry of these patents for charging the secondary battery and, thus, the secondary battery is not necessarily kept in a charged state, because the secondary battery is only providing additional cranking power. Systems such as these, which switch into parallel, bring

both batteries into a position to operate the system and drain charge from one another (Applicants' specification, para. 13).

In contrast, in the instant invention the batteries are not in parallel and no parallel circuit is engaged with the at least one standby battery. Instead a one-way charging circuit is provided that couples to at least one of the at least one standby battery and provides recharging (Applicants' spec., paras. 119, 125). Webster's dictionary defines one-way as "moves in only one direction" and charging as "to give an electric charge." Therefore, the positive limitation of a one-way charging circuit is, by its plain definition and as defined in the specification, a circuit providing a movement of an electrical charge in only one direction, i.e. a one-way valve (Applicants' spec., paras. 119). In the instant invention, this is shown in Figures 3B, 4B, 5B, 8A-9 as element 400. The one-way nature of the charging circuit has no equivalent in and cannot be provided in McDermott's parallel circuit (McDermott element 106). This is further supported by the additional recitation that the standby battery in the first operating position, being coupled to the one-way charging circuit, is allowed to be charged but is prevented from being discharged. This cannot be provided for in McDermott.

A one-way charging circuit cannot be established to recharge the auxiliary battery or the starter battery in the parallel circuit 106 as the parallel circuit of McDermott requires that recharge occur with the possible discharge from the starter battery to the standby battery and vice versa in all the configurations shown, in all embodiments described. It is precisely the bi-directional nature of the parallel circuit 106 recited in McDermott, allowing flow into and out of the battery to operate the electrical system, that obviates the possibility of providing or even modifying McDermott to provide a one-way charging circuit to a second battery. In describing the operation of the embodiments of McDermott shown in Figures 1 and 2, McDermott states

that when the system is recharging the batteries **must be in parallel and be coupled to the electrical system to be recharged (Figs. 1 and 2,col. 4, lines 47-51, col. 5, lines 35-37).** That is all the batteries are online in the parallel circuit to be recharged and therefore must be engaged and capable of being discharged in order to be recharged. This is distinct from positively claimed coupling of a standby battery via a one-way charging circuit to recharge the battery, which allows for only the one-way or unidirectional recharging of the standby battery.

In fact, the parallel circuit and its bi-directional flow are cited as advantages in McDermott, the parallel circuit allowing the two batteries to share charge with one another as determined by the controller (col. 4, lines 47-51, col. 5, lines 35-37). McDermott also permits the system to draw down energy from the charged batteries in deference to the discharged battery when the electrical system is not operating – effectively bleeding charge from one battery to another. However, this is precisely the shortcoming of the all the previous switched battery systems, as stated in the application (Applicants' spec. paras. 9, 11, 119, 120). This circuit configuration does not protect the charge state of the secondary or standby battery. This can lead to a situation where the discharged battery drains the secondary battery down to a point of insufficient charge for starting. In fact, the McDermott reference specifically teaches away from the positively recited limitations of a one-way charging circuit, stating that recharging can be provided BETWEEN the batteries (see McDermott specification col. 5, lines 1-10; 49-64) – which, as argued above, cannot be done if the batteries are separated by a one-way charging circuit as positively recited. This "bleeding" of electrical charge between the batteries is precisely what the instant invention is trying to prevent in its configuration as claimed and is a further teaching away from the claimed invention and evidence that one of ordinary skill in the art would not look to McDermott.

In contrast, amended claim 37 provides "a first operating position of said at least two operating positions wherein the common positive terminal is coupled to the main battery positive output and operates the main battery and is simultaneously coupled to the at least one standby battery positive output through a one-way charging circuit which allows charging of the at least one standby battery but prevents discharging of the at least one standby battery." Effectively this allows for isolation of the at least one standby battery from the possible drain of the spent or defective main battery and simultaneously provides for recharging or maintenance charging of the at least one standby battery so long as the generator in the electrical system is functioning properly, thus guaranteeing the necessary charge state to power up the electrical system if the main battery fails. This is accomplished by the provision of the **one-way charging circuit**, as shown. This configuration, as argued above, cannot be provided by the parallel switched battery system of McDermott.

Further, in the second switch position of the at least two switch positions, as positively recited in claim 38 and 39, the at least one standby battery is brought online without the main battery. As positively claimed and shown in the exemplary embodiments, the main battery is switched out of operation and the one-way charging circuit prevents electricity from flowing to it and effectively isolates the main battery. The fully engaged at least one standby battery operates the electrical system, as the current path from the second switch pole is beyond the one-way charging circuit and coupling in this fashion does not permit an electrical flow from the at least one standby battery to the main battery – as it is against the one-way direction of the circuit. If the electrical system is operating properly and recharging properly, the system can be switched back from the at least one standby battery to the main battery, allowing for recharge of both

batteries without the possibility of bleeding to the discharged battery, but still allowing both to receive charge from the electrical system.

Additionally, with the positively claimed instant invention as compared with previous designs, in the event that the generator in the electrical system has failed or the main battery is shorted, the fully charged at least one standby battery, in part because it does not contend with the additional load of the dead main battery in a parallel circuit, can operate the electrical system and can do so for an extended period of time allowing needed maintenance to be sought in the case of a generator failure or replacement of the battery in the case of a main battery defect (Applicants' Specification, paras. 64, 121, 136). Again, the McDermott reference specifically teaches away from this type of operation and does not provide this added measure of safety. Though McDermott does permit the isolation of starter battery, it cannot provide simultaneous operation from one battery and recharging of another **without drawing** from both batteries.

This difference is further exemplified in amended claim 37, which provides for recharging WITHOUT allowing for the engagement of the at least one standby battery or the possibility of depletion through recharging of the main battery from the at least one standby battery. In contrast, the system of McDermott simply provides a switched parallel battery system that allows for selective engagement of either the auxiliary battery or both batteries and specifically allows for the recharging between the batteries, i.e. bleeding charge from one battery to the other.

In summary, the provision of these elements and operational modes is unique, and in stark contrast to the McDermott reference and references like McDermott, in that in the instant invention the resulting at least one standby battery is fully functional and is not bled down or depleted by the discharged main battery. The at least one standby battery is never allowed to

"see" the discharged main battery. The instant invention provides for engagement of either battery to operate the electrical system, in this instance the main or the at least one standby battery are sufficient to run the electrical system while allowing for selective recharging during operation of the system. The system is not put into a parallel circuit with both batteries used to operate the electrical system, as is done with McDermott. The invention accomplishes this specifically because it DOES NOT provide for the ability to bleed charge from one battery to the other, something McDermott specifically teaches. The invention allows for simultaneous recharge or maintenance charging of the at least one standby battery without discharge or diminishment by the main battery or the electrical system through the use of a one-way charging circuit, as claimed. Thus, McDermott cannot anticipate or render obvious the instant invention as it does not provide for the several limitations discussed above, which are positively recited in the claims. It is therefore respectfully requested that the rejection of claim 37 be rescinded, and that the claim be allowed. Furthermore, as claims 38-62 are dependent from allowable claim 37, as discussed herein, claims 38-62 are allowable as being dependent from an allowable claim and such allowance is respectfully requested.

35 U.S.C. §103(a) Rejection

In the Action on page 9 in section 13, claims 43 and 44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McDermott. Applicants respectfully traverse this rejection. As claims 43 and 44 are dependent from allowable claim 37, as discussed herein, claims 43 and 44 are allowable as being dependent from an allowable claim. Therefore, Applicants respectfully request that the rejections of claims 43 and 44 be rescinded, and that these claims be allowed.

In the Action on page 10 in section 15, claim 46 is rejected under 35 U.S.C. § 103(a) as being unpatentable over McDermott in view of Geibl et al. Applicants respectfully traverse this rejection. As claim 46 is dependent from allowable claim 37, as discussed herein, claim 46 is allowable as being dependent from an allowable claim. Therefore, Applicants respectfully request that the rejections of claim 46 be rescinded, and that this claim be allowed.

In the Action on page 10 in section 16, claim 47 is rejected under 35 U.S.C. § 103(a) as being unpatentable over McDermott in view of U.S. Patent 5487956 to Bromley et al. (hereinafter Bromley). Applicants respectfully traverse this rejection.

The Action asserts that McDermott teaches the limitations of claim 47, as discussed in relation to claim 37, save for a one-way charging diode as positively recited. The Action further asserts that Bromley discloses a multiple battery system where the auxiliary/backup battery 105 charging current is provided through a steering and polarity protection diode 119.

Firstly, Applicants respectfully submit that claim 47 is allowable over the combination of references as argued above, as this claim is dependent from allowable claim 37 and Bromley fails to overcome the cited deficiencies of McDermott.

Further, with respect to the teachings of McDermott and Bromley these references are from non-analogous art. McDermott teaches a dual battery system having a vehicle auxiliary battery and a vehicle starter battery, both significant, full sized batteries used in operating a vehicle. In contrast, Bromley teaches a microelectronics backup battery system to maintain the operation of a single auxiliary, a security system, should the main car battery fail. As discussed in Bromley at column 1, lines 12-21 and column 3, lines 36-48, the battery backup is used exclusively to continue operating the vehicle security system. It does not isolate a fully functional, standby battery for operation of the vehicle or an electrical system.

In comparing the vehicle multiple battery system of McDermott and the microelectronics battery backup system of Bromley, the vehicle multiple battery art is quite different from the microelectronics battery backup art, and one of ordinary skill would *not* look to the microelectronics battery art for a device to replace a switched battery system for full sized batteries such as that shown in the vehicle battery system of McDermott. One of ordinary skill in the art would not look to Bromley to provide the positively recited one-way charging circuit because the amount of energy involved in the batteries and in the recharging are significantly different, as discussed in Applicants' specification at paragraph 9 and 50. In the case of Bromley, the system is configured for recharging a backup battery that is not drawn upon to operate the vehicle, but it is isolated until it is switched into parallel with the main battery (see Bromley Figure 1). Hence, one of ordinary skill in the art would not consider replacing the switches of McDermott in a multiple battery system with the steering and polarity diode that is a part of a backup battery system for a microelectronics security system, such as that shown in Bromley. Thus, the teachings of McDermott and Bromley are from non- analogous art and one of ordinary skill in the art would not look to Bromley for the asserted components.

Moreover, the Action provides that one of ordinary skill in the art would be prompted to include the steering and polarity diode of Bromley to provide steering and overcurrent protection in modifying McDermott. Firstly, the diode disclosed in Bromley would be insufficient to handle the current passed to a standby battery having the equivalent charge capacity as the main battery, as the backup battery of Bromley is not a full size vehicle battery, but is intended to only operate the microelectronics of a security system.

Secondly, the teachings of McDermott do not hint at any issue with overcurrent protection nor would one be concerned with overcurrent protection because circuit described in

McDermott, having a separate starter and auxiliary batteries controlled by a controller, would not necessitate overcurrent protection for any recharging as it is occurring simultaneously with the drawing of energy from the battery. That is the starter battery is switched in and out of the system and would not require a limitation on the power flowing to it, i.e. overcurrent protection, as the electronic controller would simply switch it off or out of the circuit and there is no steering needed or suggested by the parallel circuit of McDermott. There is no simultaneous recharging without draining going on in McDermott, the type of recharging that would necessitate steering and overcharge protection.

This type of recharging and the use of one-way charging diodes are typically found in references like those of U.S. Patent No. 5,002,840 to Klebenow, et al. and U.S. Patent No. 5,162,164 to Dougherty et. al. (see Applicants specification, paragraph 9), which use one-way charging diodes to protect and provide charge to a backup battery while operating from a main battery. However, in ALL these designs, including the non-analogous system of Bromley, the backup battery is engaged in a parallel circuit, which obviates the one-way charging diode and puts **both** batteries in parallel, leading to the problems with previous systems as discussed above in relation to claim 37.

Moreover, providing this combination is in direct contradiction to the teachings of McDermott, as asserted above in the arguments distinguishing claim 37. McDermott specifically teaches that the batteries in its system are able to bleed charge from one another (see McDermott, col. 5, lines 49-64), whereas the system of Bromely is **specifically directed to preventing the bleed of the backup battery** by the main battery so as to maintain the operation of the security system. (Bromley, col. 1, lines 13-21).

In view of these diametrically opposite teachings, one could of ordinary skill in the art could not be motivated to use the asserted elements of Bromley in a manner that contravenes the teachings of McDermott. Instead, in contravention of the law, the motivation for applying the one-way charging diode in a circuit for simultaneously charging a backup battery that is separately engaged is from Applicants' disclosure, and not from the prior art. "Both the suggestion [to combine] and **the reasonable expectation of success** must be found in the prior art, not in the Applicant's disclosure." In re Vaeck, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991) (citing In re Dow Chemical Co., 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988) (citations omitted, emphasis added).

Here, the motivation to combine the references came impermissibly from the Applicants' disclosure, and not from the prior art. The prior art of McDermott and Bromely provide no motivation for incorporating the one-way steering diode in the fashion suggested in the Action, and further provides no reasonable expectation that the incorporation of such a steering diode would be successful, especially in view of the teaching away from such a device in the McDermott reference. Hence, the motivation for combining these two references is improper.

Thus, for these separate reasons, the Action fails to establish a prima facie case of obviousness, and claim 47 is nonobvious and allowable over the combination of McDermott in view of Bromely. Therefore, because claim 47 is nonobvious and allowable over the combination of references, Applicants respectfully request that the rejection of claim 13 be rescinded, and that this claim be allowed.

In the Action on page 11 in section 17, claims 48-50 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McDermott in view of Bromley further in view of Dougherty, et al. Applicants respectfully traverse this rejection.

Firstly, Applicants respectfully submit that claims 48-50 are allowable over the combination of references as argued above, as this claim is dependent from claims 37 and claim 47 and Dougherty fails to overcome the cited deficiencies of McDermott and Bromely. The Action assumes that the unidirectional current path through the one-way charging diode needs an overcurrent protection device, such as an SCR/thysistor, to selectively limit current through the diode. Applicants note that no such limitation has been positively claimed. The Action further asserts that McDermott in view of Bromley teaches the limitations of claims 47 and 37, save that McDermott in view of Bromley does not teach a one-way charging circuit having an SCR/thysistor.

Initially Applicants do note that claim 48-50, as amended, do specify that the one-way charging circuit is an at least one silicon rectifier and further an at least one silicon controlled rectifier.

As to claims 48-50, the Thysistor taught in Dougherty does not prevent discharge of the secondary battery through the main battery if the secondary battery is engaged, i.e. the main is dumped into parallel with the secondary battery. As mentioned in Applicants' specification, Dougherty and devices like Dougherty do not provide the positively recited claims limitations. Dougherty does not prevent depletion of the secondary battery from the main battery when the secondary battery is engaged, as the system puts the batteries together in parallel (see Applicants' specification, para 9). Additionally, as asserted above with respect to Bromely, the teachings of McDermott specifically teach against adding this limitation to the ability to bleed charge from one battery to the other as in the system of McDermott. A one-way element like a one-way circuit/SCR would prevent bleeding from one battery to the other, which is contrary to the teachings of McDermott. The only suggestion to combine the positively recited elements of

these claims comes from Applicants own specification and the motivation asserted to provide overcurrent protection in a one-way circuit/SCR element is impermissibly taken from Applicants own disclosure.

Moreover, the inherent weaknesses of the systems like Dougherty due to the possibility of failing in a start up scenario can be directly shown by their failure to be adopted in the battery industry. The Dougherty systems and patents like them have been available to the industry for over 10 years. These patents and the related devices have been available to, and in fact are property of, some of the largest battery and electronics control system manufacturers in the world. Yet they have not been commercially successful because they cannot guarantee that they will function in emergency situations. In fact, these systems, in most instances, specifically teach away from the combination of components claimed. For the most part the previous systems have attempted to provide a quasi-jumpstart system, wherein a boost of charge is provided by the standby, or an additional battery, both of which switch into a parallel circuit and become electrically coupled and, therefore, potentially incapable of providing sufficient charge in an emergency as they need to contend with a discharged battery and are drained by the same battery.

Not one of these systems suggests the innovative developments of the instant invention. The instant invention, as positively recited in the claims, overcomes these deficiencies by providing one or more standby batteries of sufficient capacity to operate the vehicle instead of the main battery and a switching device to selectively operate from one or another of the batteries. That is the system is designed to function as a true standby system, keeping a fully charged standby battery available for any eventuality. There is no way to bleed down the standby battery with the main battery, as no parallel circuit is created. Furthermore, the one-way

circuit is provided to recharge the at least one standby battery and, in exemplary embodiments depicted, separates the at least one standby battery in the second operating position from being put into parallel with the main battery.

Thus, for these separate and additional reasons, the Action fails to establish a prima facie case of obviousness, and claims 48-50 are non-obvious and allowable over the combination of McDermott and Bromely further in view of Dougherty, et al. Therefore, because claims 48-50 are non-obvious and allowable over the combination of references, Applicants respectfully request that the rejection of claims 48-50 be rescinded, and that these claim be allowed.

In the Action on page 12 in section 18, claims 51-53 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McDermott in view of Bromely, further in view of U.S. Patent 5631535 to Van der Merwe (hereinafter Van der Merwe). Applicants respectfully traverse this rejection.

Firstly, Applicants respectfully submit that claims 51-53 are allowable over the combination of references as argued above, as these claims are dependent from claim 37 and Van der Merwe fails to overcome the deficiencies of McDermott. Therefore, claims 51-53 are allowable as being dependent from an allowable claim.

Secondly, the heat sink with high capacity diode is more than a mere matter of obvious design choice. This can be seen in the art cited by applicants and examiner in the case. The prior art cited shows various diodes of varying capacities, but none that would be capable of handling the high current of a vehicle electrical system, and require additional electronics to step down the power. For instance, Dougherty provides a resistor to step down the current going through the diode provided. Moreover, Dougherty and other references indicate that the heat dissipation problem is a considerable one and providing a heat sink within the confines of a

battery housing has posed significant problems. Thus, the art teaches away from such a combination. None of the prior art has provided a high capacity and diode combination in multiple battery system, as evidenced by the fact that Van der Merwe is directed to a regulator in a photovoltaic system. There is no motivation in Van der Merwe to provide a high capacity diode in a multiple battery system and no such suggestion is made in Bromely because Bromely deals with microelectronics, as discussed above. Thus, no sufficient motivation can be found in the art to provide for obviousness. Instead, the action relies on a line of cases to assert that one of ordinary skill in the art would consult, in the face of a teaching away in the multiple battery system art, the disparate microelectronics art of security systems and the photovoltaic regulator art to find and combine the claimed elements. Thus, the motivation provided by the Action is insufficient to establish a prima facie case of obviousness for rejecting claims 51-53. Instead, in contravention of the law, the motivation for combining these two references is taken directly from Applicants' disclosure, and not from the prior art. "Both the suggestion [to combine] and the reasonable expectation of success must be found in the prior art, not in the Applicants' disclosure." In re Vaeck, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991) (citing In re Dial Chemical Co., 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988) (citations omitted).

Moreover, the supposition that this is an obvious design choice is not supported under the generally accepted tests for obviousness. Specifically, the secondary considerations in this case tip the balance against a determination that the positively claimed elements are a mere design choice. There have been no commercially successful multiple battery systems utilizing a high capacity diode and heat sink as claimed. This coupled with the fact that the cited references have been available for over 10 years provides ample evidence that, under the *Deere* tests for obviousness and secondary considerations, the balance of the secondary considerations indicate

instead that the inclusion of a high capacity diode with a heat sink is beyond a mere design choice. So, in addition to lacking a motivation to combine the asserted references, the assertion that claims 51-53 are a mere design choice is false. Therefore, claims 51-53 are allowable for these additional reasons.

In the Action on page 14 in section 19, claims 58-62 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McDermott in view of U.S. Patent 4709202 to Koenck, et al. (hereinafter Koenck). Applicants respectfully traverse this rejection. Applicants respectfully submit that claims 58-62 are allowable over the combination of references as argued above, as these claims are dependent from claim 37 and Koenck fails to overcome the deficiencies of McDermott. Therefore, claims 58-62 are allowable as being dependent from an allowable claim.

This Amendment is being submitted within the third month following the end of the response period set by the Action and is accompanied by a third month extension of time fee of $510.00. Additionally, a statutory disclaimer fee of $65.00 is also included. If greater or lesser fees are required, please charge or credit Deposit Account Number 50-3461 accordingly and notify the undersigned.

Applicants also note the previous filing of supplemental information disclosure statements and a Form PTO-1449s on July 6, 2004 containing three (3) patent references. However, the Action does not indicate that the Information Disclosure Statement has been considered. In response to this Amendment, it is respectfully requested that the Information Disclosure Statement be considered, that the Form PTO-1449 be initialed to indicate that the submitted prior art has been considered, and that a copy of the initialed Form PTO-1449 be included with the response to this Amendment.

THEREFORE, because all objections and rejections have been overcome, it is submitted that claims 37-62 are allowable, and such allowance is requested. If a telephone interview would further such allowance, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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In the Drawings

The attached replacement drawings include changes to Figs. 3B, 4B, 5B, 8 and 9 and added Fig. 10.

Applicants have hereby amended figures 3B, 4B, 5B, 8, and 9 to include labeling for the components shown.

Figure 8 has been amended to show a controller 700 having the listed sensors and heat sink. Additionally, the switch sensor has been properly identified as element 750. Elements 710, 720, 730, and 740 are shown and described (Applicants' specification, paragraph 98) as amperage and voltage sensors. No claims are directed to an SCR.

Figure 10 has been added to include written instructions to manually switch the switching device in response to the timer. Support for claim 10 can be found in Applicants' specification, paragraphs 53, 98, and 99. No new matter has been added.

This set of drawings replaces all prior versions, and listings, of drawings in the application.